

Colorado Native Seed Starting Guide

Adapted from Jan Midgley's "Outdoor Seed Stratification" January 2021 [article](#) & [The Wild Seed Project](#)



Late fall into winter is the ideal time to sow many native seeds in Colorado. Some native seeds require several months of cold and moist conditions that Colorado winters provide in order for them to germinate. Other seeds benefit from the extreme temperature swings that we experience throughout the winter months. Some seeds may also need additional seed treatments such as a boiling water soak or a light sanding. We highly recommend consulting the Wild Ones Front Range Chapter's [website](#), with links to their downloadable [Native Seed Germination Log](#) to track seed growth and their [Germination Guide for Native Seeds](#) to learn more about which species may need special seed treatments and when is the best time to plant each type of seed. If you are new to growing native plants, also check out their list of [Easy to Grow Colorado Native Plants](#). Now let's walk through the steps of how to start native plant seeds!

Step 1: Assemble your materials

- Organic seed germination mix or high-quality potting soil
- Gravel, squeegee or vermiculite (to cover seeds)
- Seed starting trays, small pots (2-4") or other recycled vessels
- Solid bottom tray, mixing tub or litter box (empty and bleached)
- Native seeds (CO native seed [vendors](#))
- Watering can and spray bottle filled with unsoftened water
- Hardware cloth or mesh screen 1/4" to 1/2" (to protect seed trays from rodents and birds)
- Permanent marker/pencil on masking tape/waterproof labels or pencil on plant tags/recycled mini blinds (to label seedlings; pencil is less apt to fade over time)



Step 2: Prepare your seed starting trays or pots

- Place the pots or seed tray inside of a plastic tray for additional support. In a large pot or bin, mix and moisten the planting medium; it should be damp but not soaking wet. A commercial germination mix or potting soil works best because it will have adequate drainage and be pathogen and weed-free. If you use potting soil, screen it first to remove larger pieces of wood and bark.
- After filling the cells with potting medium, lightly bounce the tray of cells or pots on the surface of the potting bench or press gently from above to remove large air pockets. Add more medium until the container is almost full. If you have an extra tray or pot of the same size, you can place this on top of the soil and press down gently to lightly compact the soil in the seed tray to remove any large air pockets.



Step 3: Seeding your trays and pots

- To plant the seeds, hold them in your non-dominant hand. For larger seeds, place one to two seeds in a cell. Count out small seeds if possible. Dividing cells later will disturb the roots. For tiny seeds, sprinkle lightly over the top of the medium. For seeds in the aster family that have a fluffy pappus, sow pinches and press them into the medium. Wild-collected seeds often have lower fertility than commercial seeds and may require a more generous allotment per cell.
- Cover the seeds more heavily than you might if you were spring sowing. Some materials for covering seeds include fine vermiculite, clean gravel or squeegee. Cover large seeds to a depth equal to the diameter of the seed. Some seeds need light to germinate and could be surface sown in the spring. When seeds with a light requirement are cold treated outdoors over winter, cover very lightly with a thin layer of vermiculite or gravel to minimize disturbance from exposure to snow and wind.

Step 4: Watering and labeling

- Once seeded, gently water the cells/pots with a watering can or spray bottle filled with unsoftened water. If watering from above, water very lightly and in cycles, making sure that the water does not pool, as this could wash away your seeds or cause them to float to the surface. If the seeding medium is sufficiently moist, you can water from the bottom up by placing the flat of cells/pots in a watertight flat/container holding ½" of water; the water will wick up and saturate the growing medium without disturbing the seeds.
- Label each tray/row/pot with the name of the plant and the date. Use scientific names whenever possible to avoid confusion. A permanent marker and masking tape work well for labeling on the flats themselves; pencil on plastic plants stakes can be transferred with each seedling if they will be potted up to larger containers.



Step 5: Find an appropriate location to keep your seedlings

- If you are planting in the late fall or winter and the plants need cold stratification, place them in a shady area of your yard, such as the north or east side of a building, fence or tree. Pile snow on them to keep them cool and moist throughout the winter. If you can, keep a pile of snow nearby, so you can refresh your snow blanket as needed.
- If the seeds don't require cold stratification you can wait until warmer weather to start them in a sunny location outdoors or indoors in a greenhouse, under grow lights or next to a sunny window. Starting seeds indoors after they've been cold stratified for the appropriate amount of time (either outdoors or in the refrigerator) can give them a jump start on germination. Many native species need soil temperatures between 55-70°F in order to

germinate and many respond well to drastic swings in temperatures, typical of Colorado spring weather. Grow mats or an old heated mattress pad or electric blanket set to low and covered in plastic sheeting can provide radiant heat from below to gently warm the soil; these, coupled with grow lights (setting both on a timer), can simulate those sunny day to chilly night shifts in an indoor microclimate. If you are growing indoors, you will need to water more frequently as relative humidity in winter is very low. The soil should be kept evenly moist; clear plastic covers can help retain humidity, but will need to be vented once the seeds have germinated and are actively growing.

- Once indoor-grown plants have sprouted and are actively growing (producing true leaves), sufficient airflow is important to encourage strong growth and minimize fungal disease. Place a low-powered fan several feet from where the plants are growing, gradually moving it closer as the plants mature. Running the fan a few hours a day (or longer) can help acclimatize the plants to our windy weather. Be sure to keep the seedlings well-watered; wind is more dehydrating than sunlight.



Step 6: Protect your seedlings from critters

- While stratifying seeded trays outdoors, elevate the trays 1-3" above the ground (on a pallet, gravel or cement pavers) to protect them from slugs, pill bugs and other critters. Remove leaves from underneath and on top of them.
- Depending on your situation, you may need to protect the seeded trays with 2-foot tall fencing and hardware cloth. Dogs, rabbits, squirrels, geese and other birds can all do significant damage to seeded trays. If indoors, keep your seedlings away from dogs and cats.

Step 7: Move plants to a sunnier location in spring and begin watering (if needed)

- In spring, place the flats in a location with more light. Depending on your elevation and temperature, you may need to start watering the flats around March. Some species germinate at very cool temperatures. Keep your seedlings evenly moist and don't allow them to dry out.
- If you are keeping plants outside there are a few things you can do to insulate them in spring from sudden temperature drops. Seeds put out radicles underground that you usually don't see. Some seeds can push out of the soil early in the winter. You can top dress these with squeegee or gravel when expecting a large temperature drop or high winds to add a layer of insulation. You can also bury or surround the pots themselves with garden soil, compost or mulch to give them an added layer of protection and additional warmth. You can protect the plants from frost by covering them with fabrics like burlap or Reemay.





Photo: Lisa Olsen

Step 8: Begin to transition plants outdoors or into the ground

- When seedlings develop their third set of leaves, they are ready for transplanting. If you are growing plants indoors or in a greenhouse, you can begin to transition them outside, also known as [hardening off](#), around mid to late May. This step is vital to any seedlings' survival; do not skip it.

- In Colorado, the last frost date is usually sometime in May. Soil temperatures should be warm (at least 50°F). On the Front Range, it's usually safe to transplant seedlings into the garden on Memorial Day weekend, but always check the forecast. Once plants have been hardened-off and are ready to plant out in the garden, consider the quality

of the soil that you are planting into. A little aged compost mixed with a sandy soil can help with moisture retention. Expanded shale added to a clay soil can help with aeration, creating pore spaces that roots can move through as they establish. Many, if not most of our native plants object to well-amended soil; with a heavy clay soil it's generally better to loosen and lift (not turn) the soil than amend it. Wider planting holes encourage lateral root growth, maximizing a plant's potential to absorb sparse water resources. Water plants generously when planting, and provide supplemental water for the first few months while plants establish (or longer, if the season is very dry). Even drought-tolerant native plants need moisture to take root.

Good luck growing and please reach out via [email](#) with any questions.

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Photo: Lisa Olsen

